

What is Claimed is:

1. A low-impedance electrical resistor, comprising

a flat rectangular metal piece made of a resistor alloy;

and connection contacts applied by electroplating on a main surface of the metal

5 piece on opposite ends thereof,

wherein the front surfaces of the metal piece and the connection contacts at said ends and

the side surfaces of the metal piece and the connection contacts which abut perpendicularly

against these front surfaces in each case are aligned with each other perpendicularly to the plane

of the main surface of the metal piece sheet.

10 2. The low-impedance electrical resistor according to Claim 1, wherein the

resistance value of the resistor is between approximately $0.5 \text{ m}\Omega$ and approximately $5.0 \text{ m}\Omega$.

3. The low-impedance electrical resistor according to Claim 1, wherein the metal

piece is a film which is attached to a substrate by its side which is turned away from the

connection contacts.

15 4. The low-impedance electrical resistor according to Claim 3, wherein the film has

a thickness of less than $100 \mu\text{m}$.

5. The low-impedance electrical resistor according to Claim 3, wherein the

resistance value of the resistor is greater than $10 \text{ m}\Omega$ and preferably greater than $50 \text{ m}\Omega$.

6. A process for the manufacture of low-impedance electrical resistors, in which,

20 onto photolithographically defined areas of a layer consisting of a metallic resistor alloy in the

form of a metal sheet or a film, a metal is electroplated for the formation of connection contacts

for a multitude of individual resistors, and the layer provided with the connection contacts is

divided into the individual resistors, characterized by the process steps of:

- a) photolithographic formation of a cover mask, which is formed by a multitude of parallel strips extending uniformly spaced from each other over a surface of the layer;
- b) electroplating of the layer on only its surface which carries the cover mask, for the deposition of the connection contact metal onto the resistor strip located between the parallel mask strips; and
- c) division of the electroplated layer along groups of cutting planes which are perpendicular with respect to the layer's surface and perpendicular with respect to each other, where the cutting planes which are parallel to the connection contact strips in each case divide one of the connection contact strips, while the other cutting planes separate the resistors at their edges which run transversely with respect to the connection contact strips.

7. The process for the manufacture of low-impedance electrical resistors according to Claim 6, wherein the electroplated layer is sawed for the separation of the resistors.

8. The process for the manufacture of low-impedance electrical resistors according to Claim 6, wherein, prior to the electroplating, the back side of the layer is covered with a protective film.

9. The process for the manufacture of low-impedance electrical resistors according to Claim 6, wherein, after the separation of the connection contact metal, the mask strips are removed and replaced by a protective lacquer is applied onto the layer.

10. The process for the manufacture of low-impedance electrical resistors according to Claim 6, wherein prior to the separation step of the resistors, at least one additional layer made of the same metal or of another metal is applied onto the connection contact strips by electroplating.

11. The process for the manufacture of low-impedance electrical resistors according to Claim 6, wherein a metal sheet or a film made of a Cu alloy is coated with copper for the formation of the connection contact strips and the copper strips are tin coated.

12. The process for the manufacture of low-impedance electrical resistors according to Claim 6, wherein the length, width and thickness of the metal sheet pieces which remain after the separation of the resistors and the mutual interval of the remaining connection contacts are chosen to have dimensions for resistance values between approximately 0.1 mΩ and approximately 5 mΩ.

13. The process for the manufacture of low-impedance electrical resistors according to Claim 6, wherein the cover mask is produced on a film consisting of the resistance alloy and having a thickness of less than 100 μm, whose handling ease is achieved by attachment on a substrate, and in that the length, width and thickness of the film pieces which remain after the separation of the resistors are chosen with dimensions for resistance values of more than 10 mΩ and preferably more than 50 mΩ.

15